

**UNIVERSITY OF LONDON**  
**NEUROSCIENCE MSc EXAMINATION**

**For Internal Students of the  
INSTITUTE OF PSYCHIATRY  
King's College London**

**21<sup>st</sup> January 2010 at 10:00 am - 12:30 pm**

**PAPER A3**

**Answer FOUR questions only**

1. Evaluate and discuss possible causes of chronic pain making reference to both physiology and psychology.
2. Describe the nature of the biological clock and some of the approaches that have been used to investigate it.
3. How is the visual image analysed in the cortex?
4. Addiction is a disease of learning and memory. Justify this statement.
5. Discuss how animal models of drug addiction have been used to elucidate neuronal mechanisms of drug action.
6. What is the evidence for abnormal dopamine function in the positive (psychotic) symptoms of schizophrenia?
7. Why is the HPA (hypothalamo-pituitary-adrenal) axis implicated in major depressive disorders?
8. Outline the main neurobiological causes of amnesia in humans.
9. In the mid-1990's it was thought by many that the use of PET would decline sharply after fMRI had become widely available. Has this happened and if not, why?
10. Compare and contrast molecular and conventional MR imaging.